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Liver transplantation for hepatocellular carcinoma: impact of expansion criteria in a multicenter cohort study from a high waitlist mortality region

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Abstract

This study aimed to compare liver transplantation (LT) outcomes and evaluate the potential rise in numbers of LT candidates with hepatocellular carcinoma (HCC) of different allocation policies in a high waitlist mortality region. Three policies were applied in two Latin American cohorts (1085 HCC transplanted patients and 917 listed patients for HCC): (i) Milan criteria with expansion according to UCSF downstaging (UCSF-DS), (ii) the AFP score, and (iii) restrictive policy or Double Eligibility Criteria (DEC; within Milan + AFP score ≤2). Increase in HCC patient numbers was evaluated in an Argentinian prospective validation set (INCUCAI; NCT03775863). Expansion criteria in policy A showed that UCSF-DS [28.4% (CI 12.8-56.2)] or "all-comers" [32.9% (CI 11.9-71.3)] had higher 5-year recurrence rates compared to Milan, with 10.9% increase in HCC patients for LT. The policy B showed lower recurrence rates for AFP scores ≤2 points, even expanding beyond Milan criteria, with a 3.3% increase. Patients within DEC had lower 5-year recurrence rates compared with those beyond DEC [13.3% (CI 10.1-17.3) vs 24.2% (CI 17.4-33.1; P = 0.0006], without significant HCC expansion. In conclusion, although the application of a stricter policy may optimize the selection process, this restrictive policy may lead to ethical concerns in organ allocation (NCT03775863).

Keywords: allocation; hepatocellular carcinoma; liver transplantation; selection.

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